

87654321

POWER

SYMBOL	MOUNTING HEIGHT, AFF	DESCRIPTION
	+18"	SINGLE GROUNDED HEAVY DUTY RECEPTACLE, 20A, 125V, WALL MOUNTED
	+18"	QUADRUPLIX GROUNDED HEAVY DUTY RECEPTACLE, 20A, 125V, WALL MOUNTED
	+18"	DUPLEX GROUNDED HEAVY DUTY RECEPTACLE, 20A, 125V, WALL MOUNTED 'WP' DESIGNATES WEATHER PROOFING.
	+18"	DUPLEX GROUNDED HEAVY DUTY RECEPTACLE, GFI, 20A, 125V, WALL MOUNTED 'WP' DESIGNATES WEATHER PROOFING.
		DUPLEX GROUNDED HEAVY DUTY RECEPTACLE, 20A, 125V, FLOOR MOUNTED
	+18"	SPECIAL PURPOSE OUTLET NEMA RATING INDICATED
	+48"	SPST, HEAVY DUTY TOGGLE SWITCH, UON

SUBSCRIPT INDICATES

3 = 3-WAY  
4 = 4-WAY  
D = DIMMER SWITCH (LUTRON, S10PNL COLOR MATCH EXISTING)  
k = KEY OPERATED  
m = MANUAL MOTOR STARTER WITH THERMAL OVERLOADS  
2P = TWO-POLE MANUAL MOTOR STARTER  
MD =

PULL BOXES / JUNCTION BOXES

SYMBOL	DESCRIPTION
	JUNCTION BOX.

MOTORS

SYMBOL	MOUNTING HEIGHT, AFF	DESCRIPTION
	+60"	MAGNETIC MOTOR STARTER, NEMA SIZE AS INDICATED
	+60"	COMBINATION MOTOR STARTER, NEMA SIZE AS INDICATED
	+60"	UNFUSED DISCONNECT SWITCH, WHERE 60/3 INDICATES NEMA FRAME SIZE/NUMBER OF POLES
	+60"	FUSED DISCONNECT SWITCH, WHERE 60/40/3 INDICATES NEMA FRAME SIZE/FUSE SIZE/NUMBER OF POLES
		MOTOR

MISCELLANEOUS

SYMBOL	DESCRIPTION
	TRANSFORMER
	2-COMPARTMENT POWER POLE (POWER/TELEPHONE/DATA)

PANELBOARDS AND CABINETS

SYMBOL	MOUNTING HEIGHT, AFF	DESCRIPTION
	+78" (TOP)	3 PHASE, 4 WIRE PANELBOARD, SURFACE MOUNTED, 208/120V, ESSENTIAL OR CRITICAL

SINGLE-LINE DIAGRAM

SYMBOL	DESCRIPTION
	TRANSFORMER
	MOLDED CASE CIRCUIT BREAKER
	GROUND

RACEWAYS

SYMBOL	DESCRIPTION
	CONDUIT, CONCEALED IN WALLS, CEILING OR EXPOSED
	UNDERGROUND/SLAB CONDUIT
	AIRPORT AUTHORITY
	FAA COMMUNICATION DUCTBANK
	POWER DUCTBANK
	TELCO DUCTBANK
	FIBER OPTIC
	CONDUIT TURNING DOWN
	CONDUIT TURNING UP
	CONDUIT RISER, OR FLOOR SLEEVE
	CONDUIT CAPPED
	FLEXIBLE CONDUIT
	LT = LIQUID TIGHT CABLE TRAY
	ESSENTIAL WIREWAY (4" SQUARE DUCT)
	CRITICAL WIREWAY (4" SQUARE DUCT)
	DUCTBANK
	COMMUNICATION MANHOLE
	ELECTRICAL (POWER) MANHOLE
	CABLE MARKER
	NEUTRAL CONDUCTORS
	GROUND PHASE OR SWITCH LEG CONDUCTORS
	HOMERUN TO PANEL BOARD (#12 UNLESS INDICATED OTHERWISE)
	HOMERUN CALLOUT INDICATING CIRCUIT NUMBERS

NO TALLIES INDICATE 2 #12 & 1 #12G - 3/4" C. UON EACH CIRCUIT SHALL HAVE SEPARATE, DEDICATED NEUTRAL AND GROUND CONDUCTORS.

GROUNDING AND LIGHTNING PROTECTION

SYMBOL	DESCRIPTION
	GROUND ROD, 10'-0"x3/4" DIA COPPER CLAD STEEL
	GROUND ACCESS WELL
	RAISED FLOOR PEDESTAL GROUND
	AIR TERMINAL (LIGHTNING PROTECTION)
	GROUND PLATE SUBSCRIPT INDICATES: M = MULTIPOINT GROUND B = ANTENNA LIGHTNING BULKHEAD PLATE S = SINGLE POINT GROUND
	BARE COPPER GROUNDING CONDUCTOR UNDERGRADE/IN SLAB
	COPPER GROUNDING CONDUCTOR, EXPOSED
	LIGHTNING ROOF/ DOWN CONDUCTOR

GROUNDING AND LIGHTNING PROTECTION NOTES:  
1. THE COMPLETED GROUNDING AND LIGHTNING PROTECTION SYSTEM SHALL MEET THE "INSTALLATION REQUIREMENTS FOR LIGHTNING PROTECTION SYSTEMS, UL96A- MOST CURRENT EDITION". THE UL MASTER LABEL SHALL BE FURNISHED TO THE GOVERNMENT UPON PROJECT COMPLETION.  
2. BOTH SYSTEMS SHALL COMPLY WITH FAA STANDARD 019e. THE LIGHTNING PROTECTION SYSTEM COMPONENTS SHALL COMPLY WITH NFPA 780 CLASS-II REQUIREMENTS & FAA STANDARD 019e. LIGHTNING PROTECTION ROOF AND DOWN CONDUCTORS: STANDARD TINNED COPPER, 28 STRANDS 14 AWG EACH STRAND, 375 LB/1000FT, CROSS SECTION AREA 115,000 CM. ANCHOR MAXIMUM 3'-0" O.C.  
3. ALL METALLIC DEVICES WITHIN 6' OF ROOF COUNTERPOISE SHALL BE BONDED TO COUNTERPOISE.

GFE EQUIPMENT

SEE SPECIFICATIONS FOR GFE EQUIPMENT

SIGNAL/TELECOMMUNICATIONS

SYMBOL	DESCRIPTION
	2-POSITION TELEPHONE OUTLET, MTD 18" AFF, PROVIDE 1-1"C FROM OUTLET TO CABLE TRAY, UON
	4-POSITION TELEPHONE/LAN/ OUTLET W/2 VOICE AND 2 DATA, MTD 18" AFF, PROVIDE 2-1"C FROM OUTLET TO CABLE TRAY, UON
	TELEPHONE/LAN/ OUTLET, FLOOR MOUNTED, PROVIDE 2-1"C FROM FLOOR OUTLET TO NEAREST WALL, UP WALL TO CABLE TRAY
	4'X8'X3/4" TYPE A/B PLYWOOD (WITH GRADE A ON EXPOSED FACE) BACKBOARD. MOUNT PLYWOOD TO CONCRETE OR MASONRY WALLS USING SELF-DRILLING MASONRY ANCHORS, 3/8" DIA. X MIN. 3 3/8" EMBEDMENT (HILTI: HSE 2421). SPACE BETWEEN ANCHORS NOT TO EXCEED 2'-0". PAINT WITH FIRE RETARDANT PAINT, UON. PAINT SHALL MATCH SURROUNDING WALL PAINT COLORS. FASTENERS SHALL BE RECESSED AND HOLES FILLS WITH PUTTY. FIRMLY ATTACH TO WALL FOR SEISMIC MOVEMENT.
	OUTLET BOX FOR CEILING MOUNTED SPEAKER (PART OF PAGING SYSTEM)
	OUTLET BOX FOR FLUSH WALL MOUNTED EXTERIOR SPEAKER, MTD 54" AFF (PART OF PAGING SYSTEM)

LIGHTING

SYMBOL	DESCRIPTION
	2'X4' RECESSED LINEAR FLUORESCENT LIGHTING FIXTURE, FIXTURE WITH 2 OR MORE LAMPS - UPPER CASE LETTER INDICATES TYPE, LOWER CASE LETTER (a, b, ETC) INDICATES SWITCH CIRCUIT; NUMBER (1, 2, ETC) INDICATES BRANCH CIRCUIT NUMBER. TYPICAL FOR ALL LIGHTING FIXTURES
	2'X2' RECESSED LINEAR FLUORESCENT LIGHTING FIXTURE, TYPE INDICATED
	4' LINEAR FLUORESCENT WRAPAROUND LIGHTING FIXTURE, SURFACE MOUNTED, TYPE INDICATED
	2' LINEAR FLUORESCENT WRAPAROUND LIGHTING FIXTURE, SURFACE MOUNTED, TYPE INDICATED
	4' LINEAR FLUORESCENT STRIP LIGHTING FIXTURE, TYPE INDICATED
	RECESSED COMPACT FLUORESCENT/INCANDESCENT LIGHTING FIXTURE, TYPE INDICATED
	WALL-MOUNTED LIGHTING FIXTURE, TYPE INDICATED
	BLACKENED DOT ON ANY FIXTURE INDICATES BODINE "REDITEST" WITH EMERGENCY BATTERY PACK
	EXIT SIGN, SINGLE OR DOUBLE FACE WITH MOUNTING AND ARROWS AS INDICATED. SHADED QUADRANT TO DISPLAY THE WORD "EXIT".
	PHOTOCELL
	EMERGENCY BATTERY UNIT LIGHTING FIXTURE, TYPE INDICATED
	METAL HALIDE POLE MOUNTED LIGHTING FIXTURE, TYPE INDICATED
	METAL HALIDE FLOODLIGHT, TYPE INDICATED
	METAL HALIDE BOLLARD LIGHT FIXTURE, TYPE INDICATED
	OBSTRUCTION LIGHTING FIXTURE, TYPE INDICATED
	CMX (CONTROL MODULE)

GENERAL NOTES

1. RECEPTACLES SHALL BE COLOR CODED AS FOLLOWS:  
a) IVORY FOR NON-ESSENTIAL  
b) GRAY FOR ESSENTIAL  
2. PROVIDE IESNA RPI COMPLIANT FLUORESCENT FIXTURES WITH PARABOLIC REFLECTORS IN ALL OFFICE AREAS.  
3. ALL COVER PLATES FOR RECEPTACLES, SWITCHES AND TELCO/LAN SHALL BE BRUSHED STAINLESS STEEL, UNLESS OTHERWISE NOTED.  
4. SEE SPECIFICATIONS FOR FIRE WALL PENETRATION DETAILS.  
5. RECESSED/PENDANT/SURFACE-MOUNTED LIGHT FIXTURES SHALL HAVE A MINIMUM OF TWO SEISMIC BRACING WIRE SUPPORTS (12 GAUGE) PER FIXTURE. FOR PENDANT LIGHT FIXTURES, PROVIDE TRANSVERSE AND LONGITUDINAL BRACINGS. FOR RECESSED LIGHT FIXTURES, FASTEN TO CEILING GRID W/SHEET METAL SCREWS ON ALL FOUR SIDES.  
6. MOUNT ALL PANELBOARDS ON TYPE A-B PLYWOOD. MOUNT PLYWOOD TO CONCRETE OR MASONRY WALLS USING SELF-DRILLING MASONRY ANCHORS, 3/8" DIA. X MIN. 3 3/8" EMBEDMENT (HILTI: HSE 2421). SPACE BETWEEN ANCHORS NOT TO EXCEED 2'-0". PAINT WITH FIRE RETARDANT PAINT, UON. PAINT SHALL MATCH SURROUNDING WALL PAINT COLORS. FASTENERS SHALL BE RECESSED AND HOLES FILLS WITH PUTTY. FIRMLY ATTACH TO WALL FOR SEISMIC MOVEMENT.  
7. PROVIDE CONNECTIONS TO ALL MOTORS, TO ALL HVAC AND PLUMBING EQUIPMENT AND TO ALL OTHER EQUIPMENT PROVIDED UNDER OTHER DIVISIONS OF WORK FROM DISCONNECT SWITCH, STARTER, J-BOX, ETC.  
8. FOR TOWER CONDUIT RISERS- REQUIRED PENETRATIONS SHALL BE NEATLY CORE DRILLED WITH GALVANIZED STEEL SLEEVES INSTALLED.  
9. MINIMUM TRADE CONDUIT SIZE SHALL BE 3/4". MINIMUM POWER CONDUCTOR SIZE SHALL BE SOLID #12 THWN/THHN COPPER. PREWIRED LIGHT WHIPS ARE NOT ALLOWED UNLESS THEY COMPLY WITH THIS REQUIREMENT.  
10. EACH OVERCURRENT DEVICE SHALL HAVE ITS OWN NEUTRAL CONDUCTOR AND GROUND CONDUCTOR, SIZED THE SAME AS PHASE CONDUCTORS. NO SHARING ALLOWED.  
11. ALL TRANSFORMERS LOCATED IN THE TOWER AND IN ELECTRONIC EQUIPMENT AND TELCO ROOMS IN BASE OF THE TOWER SHALL HAVE ELECTROSTATIC SHIELDING. LOW TEMPERATURE RISE (80 DEGREES C) WITH 220 DEGREE C INSULATION AND K13 RATING.  
12. ALL HARDWARE, INCLUDING CLAMPS, BOLTS, NUTS, WASHERS, STRUTS, ANCHOR BOLTS, ANGLES, ETC. USED TO SUPPORT OR INSTALL ANY EXTERIOR (AND NON-CONDITIONED LOCATIONS) HANDRAIL, EQUIPMENT, PIPE, CONDUIT, BOX OR OTHER DEVICE SHALL BE STAINLESS STEEL A151 304, OR A151 316.  
13. SEE MECHANICAL DRAWINGS FOR EQUIPMENT PAD DETAILS.  
14. PROVIDE PULLBOX IN ALL CONDUIT CIRCUITS THAT EXCEED FOUR NINETY DEGREE TURNS. COORDINATE LOCATION OF PULLBOXES WITH CONDUIT, LIGHTS, DUCTWORK, PIPING, ETC.  
15. FOR TOWER CONDUIT RISERS- EXPOSED/SURFACE MOUNTED CONDUIT IS ACCEPTABLE IN THE TOWER WITH THE EXCEPTION OF AREAS WITH SUSPENDED CEILINGS. CONDUIT IN AREAS OF SUSPENDED CEILINGS SHALL BE RUN ABOVE THE CEILING OR CONCEALED IN WALLS.  
16. ALL EXTERIOR OR INTERIOR CONDUIT EXPOSED BELOW 8'-0" AFF OR AFG SHALL RGS, RIGID GALVANIZED STEEL.

87654321

SCALES SHOWN FOR 22" X 34" SHEET. ADJUST SCALES FOR OTHER SIZES.

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GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 6299 THOMAS J. HOLLAND

HARTRAMPF

7000 CENTRAL PARKWAY, SUITE 1475 ATLANTA, GEORGIA 30328  
HEI JOB NUMBER: 09033.00

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

ATHENS AIRPORT TRAFFIC CONTROL TOWER  
ATCT - MAJOR SUSTAIN AND SEISMIC MITIGATION  
ELECTRICAL  
LEGENDS, SYMBOLS AND NOTES

ATHENS (ATHENS MUNICIPAL AIRPORT) GA

REVIEWED BY	SUBMITTED BY	APPROVED BY
	VIRGIL HOOPER, PE.	MARK BEEKMAN

DESIGNED	ANL	ISSUED BY	DATE	03/31/2010	JCN	804669
DRAWN	ANL	ATLANTA TERMINAL ENGINEERING CENTER	DRAWING NO			
CHECKED	TJH					

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